Title:

Salinity tolerance as a factor controlling spatial patterns in composition and structure of zooplankton in the Guadalquivir estuary

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Abstract: (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 300 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

The zooplankton community along the whole salinity gradient of the Guadalquivir estuary was studied to determine the species composition, community structure and its importance in the nursery area of this estuary. Biological data analysed in this study correspond to samples collected at each new moon from January 2012 to January 2015 in the last 30 kilometer of the Guadalquivir estuary which covers the oligo-euhaline range (>0.5->30 salinity) with a mesh size net of 100 µm. Highest densities (ind/m^3) were observed at the mesohaline zone (5-18) while the highest number of species occurred at the euhaline zone (> 30). In terms of abundance (ind/m^3) the community was dominated by a few calanoid copepods, especially *Acartia tonsa*. However, in terms of biomass (mg/m^3) mysid are the dominant species, mainly *Mesopodopsis slabberi*. The best environmental variable that characterized the community was salinity. In the limnetic zone (<0.5), the species that contributes more to the similarity between samples is the copepod cyclopoide *Acanthocyclops robustus* with 56.54%; in the oligohaline zone (0.5-5) is the calanoid, *Calanipeda aquaedulcis* 64%; at the mesohaline and polyhaline zone (18-30) is the calanoid *Acartia tonsa* with 50.74% and 38.1%, respectively; and finally in the euhaline zone (> 30), with the highest diversity (d) and equitativity (J´ and H´), is the calanoid *Paracartia grani* with 19.8%. The results presented include those related to the dominance of invasive species (*Acartia tonsa*) and their evolution spatio-temporal as well as *Acartia bifilosa* whose population dynamics have not been studied to date in the Guadalquivir estuary.